

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**PETITION NO.555/TT/2014**

**Coram:**

**Shri A.S. Bakshi, Member  
Dr. M. K. Iyer, Member**

**Date of Hearing: 21.12.2015  
Date of Order : 08.01.2016**

**In the Matter of:**

Truing up of transmission tariff for 2009-14 tariff block under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2009 and determination of transmission tariff for 2014-19 tariff block for Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2014 of assets under Korba Transmission System in Western Region under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999.

**And in the Matter of:**

Power Grid Corporation of India Ltd,  
SAUDAMINI, Plot No.-2, Sector-29,  
Gurgaon-122001 (Haryana)

**.....Petitioner**

**Versus**

1. Madhya Pradesh Power Management Company Ltd.,  
Shakti Bhawan, Rampur,  
Jabalpur-482008
2. Maharashtra State Electricity Distribution Co. Ltd.,  
Hongkong Bank Building, 3<sup>rd</sup> Floor,  
M.G Road, Fort, Mumbai - 400001
3. Gujarat Urja Vikas Nigam Ltd.,  
Sardar Patel Vidyut Bhawan,  
Race Course Road, Vadodara - 390007



4. Electricity Department,  
Govt. of Goa,  
Vidyut Bhawan, Panaji  
Near Mandvi Hotel, Goa - 403001
5. Electricity Department,  
Administration of Daman & Diu,  
Daman - 396210
6. Electricity Department,  
Administration of Dadra & Nagar Haveli,  
U.T, Silvassa - 396230
7. Chhattisgarh State Electricity Board,  
P.O Sunder Nagar, Dangania, Raipur,  
Chhattisgarh - 492013
8. Madhya Pradesh Audyogik Kendra,  
Vikas Nigam(Indore) Ltd.,  
3/54, Press Complex, gra-Bombay Road,  
Indore - 452008

....Respondent(s)

The following were present:

For Petitioner:        Shri M M Mondal  
                              Shri S K Venkatesan  
                              Shri Avinash M Pavgi  
                              Shri Piyush Awasthi  
                              Shri Anshul Garg  
                              Shri S S Raju  
                              Shri Rakesh Prasad  
                              Shri J Mazumder  
                              Shri Shashi Bhushan  
                              Shri Mohd Mohsin  
                              Shri S K Niranjana

For Respondents:    None

### **ORDER**

The petition has been preferred by Power Grid Corporation of India Limited (hereinafter referred to as “the petitioner”), a transmission licensee, for revision of

tariff under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”) based on truing up of capital expenditure for the period 1.4.2009 to 31.3.2014 and for determination of tariff under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from 1.4.2014 to 31.3.2019 in respect of Korba Transmission System in Western Region (hereinafter referred to as “the transmission asset”).

2. The respondents are distribution licensees, who are procuring transmission service from the petitioner, mainly beneficiaries of Western Region.

3. The brief facts of the case are as follows:-

a) The date of commercial operation of the transmission asset is 1.4.1992. The Commission vide its order dated 3.4.2013 in Petition No. 145/2009 had approved the capital cost of ₹23435.94 lakh as on 31.3.2009 as under:-

<b>Admitted as on 31.3.2009</b>	<b>Amount (in ₹ lakh)</b>	<b>Percentage (%)</b>
Debt	11897.43	50.77
Equity	11538.51	49.23
Capital Cost	<b>23435.94</b>	<b>100.00</b>

b) The petitioner had approached the Commission vide Petition No. 145/2009 for approval of additional capital expenditure towards replacement of circuit breakers, LAs, strengthening of towers for 400 kV Itarsi-Indore ckt-II and reactors for Korba transmission system during 2009-10, 2010-11 and

2011-12, de-capitalisation during 2009-10 and 2010-11 and determination of tariff for 2009-14 tariff period.

c) The Commission, vide order dated 3.4.2013, had allowed an additional capital expenditure of ₹543.78 lakh for 2009-10, ₹150.97 lakh for 2010-11 and ₹211.57 lakh for 2011-12 and de-capitalisation of ₹176.74 lakh for 2009-10 and ₹41.70 lakh for 2010-11. The Commission determined the tariff for the transmission asset for tariff period 2009-14 based on admitted capital cost of ₹23435.94 lakh and estimated net additional capital expenditure of ₹687.88 lakh for 2009-14 tariff period as under:-

(₹ in lakh)					
<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Depreciation	377.63	408.55	425.95	436.53	436.53
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	2026.67	2039.16	2047.57	2053.12	2053.12
Interest on Working Capital	150.08	156.67	163.28	170.02	176.75
O & M Expenses	1998.52	2112.17	2233.65	2361.57	2496.17
<b>Total</b>	<b>4552.91</b>	<b>4716.55</b>	<b>4870.46</b>	<b>5021.24</b>	<b>5162.57</b>

4. As per Regulation 6 of the 2009 Tariff Regulations, the Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2014, as admitted by the Commission after prudence check at the time of truing up. Further, as per Regulation 15 of the 2009 Tariff Regulations, the petitioner is required to adjust the yearly impact of tax rate in the truing up petition for 2009-14 tariff period.

5. In this context, the petitioner has filed the instant petition on 6.12.2014, for revision of tariff for the tariff period 2009-14 in accordance with Regulation 6 of the 2009 Tariff Regulations.

6. The petitioner has served the petition to the respondents and notice of this application has been published in the newspaper in accordance with Section 64 of the Electricity Act, 2003. No comments/objections have been received from the public in response to the notice in newspaper. No submissions have been made by the respondents. The hearing in this matter was held on 21.12.2015. The Commission had directed the petitioner to submit additional information latest by 28.12.2015 which has been complied by the petitioner vide affidavit dated 28.12.2015. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

### **TRUING UP OF ANNUAL FIXED CHARGES FOR 2009-14 TARIFF PERIOD**

7. Clause (3) of the Regulation 6 of the 2009 Tariff Regulations provides as under:-

“(3) The generating company or the transmission licensee, as the case may be, shall submit for the purpose of truing up, details of capital expenditure and additional capital expenditure incurred for the period from 1.4.2009 to 31.3.2014, duly audited and certified by the auditors”.

8. The petitioner has submitted the information as required under the 2009 Tariff Regulations for truing up of annual fixed charges for 2009-14 tariff period. The tariff for 2009-14 tariff period has been trued up in the subsequent paragraphs.

## **Capital Cost**

9. The petitioner has claimed admitted capital cost of ₹23435.94 lakh as on 31.3.2009 for the purpose of tariff determination.

10. The last proviso to Regulation 7(2) of the 2009 Tariff Regulations provides that:-

“Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 duly trued up by excluding un-discharged liability, if any, as on 1.4.2009 and the additional capital expenditure projected to be incurred for the respective year of the tariff period 2009-14, as may be admitted by the Commission, shall form the basis for determination of tariff”.

11. The admitted capital cost of ₹23435.94 lakh as on 31.3.2009 has been considered as opening capital cost as on 1.4.2009 for determination of trued up tariff in accordance with Regulation 7 of the 2009 Tariff Regulations.

## **Additional Capital Expenditure**

12. Regulation 6(1) of the 2009 Regulations provides that:-

“...The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2014...”

13. The petitioner has submitted that it has incurred a total additional capital expenditure of ₹543.78 lakh and de-capitalisation of ₹176.44 lakh during 2009-10, additional capital expenditure of ₹27.07 lakh during 2012-13 and ₹58.83 lakh during 2013-14 towards replacement of circuit breakers, surge arrestor, numeric distance relays. The petitioner has submitted Auditor Certificate dated 7.11.2014 in support of claim of the actual capital expenditure incurred as depicted below:-

(₹ in lakh)

Approved / Actual	Capital cost admitted as on 31.3.2009	Add Cap / De-Cap	Additional Capital Expenditure (2009-14)						Capital cost as on 31.3.2014
			2009-10	2010-11	2011-12	2012-13	2013-14	Total	
Approved vide order dated 3.4.2013	23435.94	Add Cap	543.78	150.97	211.57	-	-	906.32	24123.82
		De-cap	176.74	41.70	-	-	-	218.44	
		<b>Net Add Cap</b>	<b>367.04</b>	<b>109.27</b>	<b>211.57</b>	-	-	<b>687.88</b>	
Actual incurred during 2009-14		Add Cap	543.78	-	-	27.07	58.83	629.68	23889.18
		De-cap	176.44	-	-	-	-	176.44	
		<b>Net Add Cap</b>	<b>367.34</b>	-	-	<b>27.07</b>	<b>58.83</b>	<b>453.24</b>	

14. We have considered the submissions of the petitioner with regard to the actual capital expenditure during 2009-14 tariff period. Since the capital addition for 2009-14 tariff period claimed is based on actual capital expenditure incurred and is within the limits of the total approved capital expenditure, we allow the same for the purpose of revision of tariff in accordance with Regulation 6 of the 2009 Tariff Regulations.

15. The debt:equity ratio of 70:30 for additional capital expenditure as claimed by the petitioner is in accordance with the Regulation 12 (3) of the 2009 Tariff Regulations and hence, same has been considered towards financing of the additional capital expenditure.

### **Debt: Equity**

16. Regulation 12 of the 2009 Tariff Regulations provides as under:-

“12. Debt-Equity Ratio. (1) For a project declared under commercial operation on or after 1.4.2009, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:



Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff:

(2) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2009, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2009 shall be considered.

(3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

17. The debt: equity ratio of 50.77:49.23 as on 31.3.2009 as admitted by the Commission vide order dated 3.4.2013 in Petition No. 145/2009 has been considered as on 1.4.2009 for determination of tariff in accordance with the Regulation 12 of the 2009 Tariff Regulations. In respect of the additional capitalization, debt:equity ratio of 70:30 has been considered which is in line with the 2009 Tariff Regulations.

18. The details of the debt:equity considered for the purpose of tariff for 2009-14 tariff period is as follows:-

(₹ in lakh)

Funding	Capital Cost as on 31.3.2009	(%)	Net Additional Capital Expenditure during 2009-14	(%)	Total Cost as on 31.3.2014	(%)
Debt	11897.43	50.77	317.27	70.00	12214.70	51.13
Equity	11538.51	49.23	135.97	30.00	11674.48	48.87
<b>Total</b>	<b>23435.94</b>	<b>100.00</b>	<b>453.24</b>	<b>100.00</b>	<b>23889.18</b>	<b>100.00</b>

### Return on Equity ("ROE")

19. Clause (3), (4) and (5) of the Regulation 15 of the 2009 Tariff Regulations provide as follows:-



“(3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be.

(4) Rate of return on equity shall be rounded off to three decimal points and be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t)

Where “t” is the applicable tax rate in accordance with clause (3) of this regulation.

(5) The generating company or the transmission licensee, as the case may be, shall recover the shortfall or refund the excess Annual Fixed Charge on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission:

Provided further that Annual Fixed Charge with respect to the tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations.”

20. The variation in the tax rate during the 2009-14 tariff period applicable to the petitioner as per the Finance Act of the relevant year for the purpose of grossing up of return on equity (ROE) has been furnished as follows:-

Year	MAT Rate claimed in the current petition	Grossed up ROE (Base Rate/(1-t)) claimed in the current petition
2009-10	16.995%	18.674%
2010-11	19.931%	19.358%
2011-12	20.008%	19.377%
2012-13	20.008%	19.377%
2013-14	20.961%	19.610%

21. Regulation 15 of the 2009 Tariff Regulations provides for grossing up of ROE with the actual tax rate for the purpose of ROE. The petitioner has submitted that MAT rate was applicable during the various years of 2009-14 tariff period. The ROE has been worked out by considering year wise MAT rate submitted by the

petitioner in accordance with Regulation 15 of the 2009 Tariff Regulations. The ROE allowed is as follows:-

(₹ in lakh)

<b>Return on Equity</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Approved in Order dated 3.4.2013	2026.67	2039.16	2047.57	2053.12	2053.12
Claimed by the petitioner	2164.99	2254.96	2257.17	2257.96	2287.64
Allowed after true up in this Order	2164.99	2254.96	2257.17	2257.96	2287.64

The variation in the return on equity is on account of change in the applicable MAT rate considered for the purpose of grossing up of base rate of return on equity.

### **Interest on Loan (“IoL”)**

22. Regulation 16 of the 2009 Tariff Regulations provide the methodology for working out weighted average rate of IoL. The Commission in its earlier Order dated 8.6.2011 in Petition No. 238/2010 has dealt with similar issue and held that:-

“...in case of floating rate of interest, any change in the rates of interest during the tariff period will be considered at the time of true up”.

However, the normative loan for the transmission asset has been completely repaid since the cumulative depreciation is more than the cumulative loan balance. Further, the normative loan addition on account of additional capitalisation during the respective year is repaid through depreciation allowed during the financial year. Accordingly, in line with the Regulation 16 of the 2009 Tariff Regulations, the interest on loan has been considered as NIL as entire loan is repaid through admissible depreciation.

## **Depreciation**

23. The depreciation has been worked out as per the methodology provided in the Regulation 17 of the 2009 Tariff Regulations. The accumulated depreciation corresponding to the de-capitalization assets has been adjusted to arrive the cumulative depreciation during respective year. The depreciation allowed is as follows:-

	(₹ in lakh)				
<b>Depreciation</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Approved in Order dated 3.4.2013	377.63	408.55	425.95	436.53	436.53
Claimed by the petitioner	377.65	404.08	404.08	405.44	410.28
Allowed after true up in this Order	377.65	404.08	404.08	405.44	410.27

The variation in depreciation is due to change in additional capital expenditure and corresponding gross block during the 2009-14 tariff period.

## **Interest on Working Capital (“IWC”)**

24. The IWC has been worked out as per the methodology provided in the Regulation 18 of the 2009 Tariff Regulations and allowed as under:-

	(₹ in lakh)				
<b>Interest on Working Capital</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Approved in Order dated 3.4.2013	150.08	156.67	163.28	170.02	176.75
Claimed by the petitioner	152.96	161.09	167.20	173.64	181.09
Allowed after true up in this Order	152.95	161.06	167.19	173.63	181.08

The variation in IWC is due to change in additional capital expenditure, corresponding receivables and change in ROE on account of variation in applicable MAT rate during the 2009-14 tariff period.

### **Operation & Maintenance Expenses (“O&M Expenses”)**

25. Clause (g) of Regulation 19 of the 2009 Tariff Regulations provides the norms for O&M Expenses for the transmission system. The normative O&M Expenses are not required to be trued up. Accordingly, the total allowable O&M expenses for the instant assets have been worked out based on norms of O&M Expenses and the details are as follows:-

(₹ in lakh)

<b>O&amp;M Expenses</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Approved in Order dated 3.4.2013	1998.52	2112.17	2233.65	2361.57	2496.17
Claimed by the petitioner	1998.52	2112.17	2233.65	2361.57	2496.17
Allowed after true up in this Order	1998.52	2112.17	2233.65	2361.57	2496.17

### **APPROVED ANNUAL FIXED CHARGES FOR 2009-14 TARIFF PERIOD**

26. The detailed computation of the various components of the trued up annual fixed charges for the instant transmission assets for the tariff period 2009-14 is summarised below:-

(₹ in lakh)

<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>Depreciation</b>					
Opening Gross Block	23435.95	23803.29	23803.29	23803.29	23830.36
Additional Capitalisation	367.34	0.00	0.00	27.07	58.83
Closing Gross Block	23803.29	23803.29	23803.29	23830.36	23889.19
Average Gross Block	23619.62	23803.29	23803.29	23816.83	23859.78
Rate of Depreciation (%)	1.60	1.70	1.70	1.70	1.72
Depreciable Value	21201.26	21366.56	21366.56	21378.74	21429.58
Balance useful life of the asset	12	11	10	9	8
Elapsed life	17	18	19	20	21
Remaining Depreciable Value	4531.76	4444.91	4040.83	3648.93	3282.14
Depreciation during the year	377.65	404.08	404.08	405.44	410.27
Cumulative depreciation (incl. of AAD)	16921.65	17325.73	17729.81	18135.25	18545.52
<b>Interest on Loan</b>					
Gross Normative Loan	11897.43	12154.57	12154.57	12154.57	12173.52
Cumulative Repayments upto Previous Year	11897.43	12154.57	12154.57	12154.57	12173.52

<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
Additions	257.14	0.00	0.00	18.95	41.18
Repayment during the year	257.14	0.00	0.00	18.95	41.18
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Loan	0.00	0.00	0.00	0.00	0.00
Weighted Average Rate of Interest on Loan (%)*	0.94	0.94	0.94	0.94	0.94
Interest on Loan	0.00	0.00	0.00	0.00	0.00
<b>Return on Equity</b>					
Opening Equity	11538.51	11648.71	11648.71	11648.71	11656.83
Additions	110.20	0.00	0.00	8.12	17.65
Closing Equity	11648.71	11648.71	11648.71	11656.83	11674.48
Average Equity	11593.61	11648.71	11648.71	11652.77	11665.66
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	16.995	19.931	20.008	20.008	20.961
Rate of Return on Equity (%)	18.674	19.358	19.377	19.377	19.610
Return on Equity	2164.99	2254.96	2257.17	2257.96	2287.64
<b>Interest on Working Capital</b>					
O & M Expenses	166.48	175.94	186.06	196.72	207.93
Maintenance Spares	299.78	316.83	335.05	354.24	374.42
Receivables	782.35	822.05	843.68	866.43	895.86
Total Working Capital	1248.61	1314.82	1364.79	1417.39	1478.21
Rate of Interest (%)	12.25	12.25	12.25	12.25	12.25
Interest of working capital	152.95	161.06	167.19	173.63	181.08
<b>Annual Transmission Charges</b>					
Depreciation	377.65	404.08	404.08	405.44	410.27
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	2164.99	2254.96	2257.17	2257.96	2287.64
Interest on Working Capital	152.95	161.06	167.19	173.63	181.08
O & M Expenses	1998.52	2112.17	2233.65	2361.57	2496.17
<b>Total</b>	<b>4694.11</b>	<b>4932.28</b>	<b>5062.09</b>	<b>5198.60</b>	<b>5375.15</b>

(\*The outstanding normative loan is zero, however, the petitioner has indicated the weighted average rate of interest based on actual loan portfolio)

### **DETERMINATION OF ANNUAL FIXED CHARGES FOR 2014-19 TARIFF PERIOD**

27. The petitioner has claimed the tariff charges for 2014-19 tariff period as under:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	414.05	414.05	414.04	414.07	414.03
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	2289.37	2289.37	2289.37	2289.37	2289.37
Interest on Working Capital	188.29	192.53	196.87	201.31	205.94
O & M Expenses	2281.96	2358.81	2437.26	2517.67	2601.42
<b>Total</b>	<b>5173.67</b>	<b>5254.76</b>	<b>5337.54</b>	<b>5422.42</b>	<b>5510.76</b>

28. The details submitted by the petitioner in support of its claim for interest on working capital are given hereunder:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	190.16	196.57	203.11	209.81	216.79
Maintenance Spares	342.29	353.82	365.59	377.65	390.21
Receivables	862.28	875.79	889.59	903.74	918.46
<b>Total</b>	<b>1394.73</b>	<b>1426.18</b>	<b>1458.29</b>	<b>1491.20</b>	<b>1525.46</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>188.29</b>	<b>192.53</b>	<b>196.87</b>	<b>201.31</b>	<b>205.94</b>

### **Capital Cost**

29. Clause (3) and (6) of Regulation 9 of 2014 Tariff Regulation provide as follows:-

“(3) The Capital cost of an existing project shall include the following:

(a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;

(b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and

(c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15.”

“(6) The following shall be excluded or removed from the capital cost of the existing and new project:

(a) The assets forming part of the project, but not in use; (b) Decapitalisation of Asset;”



30. The capital cost of ₹23889.19 lakh worked out by the Commission as on 31.3.2014 has been considered as opening capital cost as on 1.4.2014 for determination of tariff in accordance with Regulation 9 of the 2014 Tariff Regulations.

### **Additional Capital Expenditure**

31. The petitioner has not claimed any additional capital expenditure during the tariff period 2014-19.

### **Debt: Equity**

32. Clause (1) and (3) of Regulation 19 of the 2014 Tariff Regulations provides as under:-

“19. Debt-Equity Ratio: (1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan.”

“(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, debt equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.”

“(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as maybe admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

33. The petitioner has considered the debt:equity ratio of 51.13:48.87 as on 31.3.2014, which is in line with the 2014 Tariff Regulations. The details of the debt:equity considered for the purpose of tariff for 2014-19 tariff period is as follows:-

(₹ in lakh)

Funding	Total cost as on 1.4.2014	(%)	Additional capital expenditure during 2014-19	(%)	Total cost as on 31.3.2019	(%)
Debt	12214.70	51.13	0.00	-	12214.70	51.13
Equity	11674.48	48.87	0.00	-	11674.48	48.87
<b>Total</b>	<b>23889.18</b>	<b>100.00</b>	<b>0.00</b>	<b>-</b>	<b>23889.18</b>	<b>100.00</b>

### **Return on Equity (“ROE”)**

34. Clause (1) and (2) of Regulations 24 and Clause (2) of Regulation 25 of the 2014 Tariff Regulations specify as under:-

“24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.  
(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system”

“25. Tax on Return on Equity:

(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t)

Where “t” is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.”

35. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during the 2013-14 has been considered for the purpose of ROE, which shall be trued up with actual tax rate in accordance with Clause (3) of Regulation 25 of the 2014 Tariff Regulations. The ROE has been worked out and allowed as follows:-



(₹ in lakh)

<b>Return on Equity</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	11674.48	11674.48	11674.48	11674.48	11674.48
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	11674.48	11674.48	11674.48	11674.48	11674.48
Average Equity	11674.48	11674.48	11674.48	11674.48	11674.48
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (%)	19.610	19.610	19.610	19.610	19.610
<b>Return on Equity</b>	<b>2289.37</b>	<b>2289.37</b>	<b>2289.37</b>	<b>2289.37</b>	<b>2289.37</b>

### **Interest on Loan (“IoL”)**

36. Clause 5 and Clause 6 of Regulation 26 of the 2014 Tariff Regulations provides that:-

“(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.”

37. Since, the normative loan for the transmission asset has been completely repaid being cumulative depreciation is more than the cumulative loan balance. The petitioner has not claimed any interest on loan during the tariff period 2014-19.

## Depreciation

38. Clause (2), (5) and (6) of Regulation 27 of the 2014 Tariff Regulations provide that:-

"27. Depreciation:

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis"

"(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-II to these regulations for the assets of the generating station and transmission system:

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets."

39. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2014 and accumulated depreciation up to 31.3.2014. The detailed calculations for depreciation for the transmission asset allowed is as follows:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Depreciation</b>					
Opening Gross Block	23889.19	23889.19	23889.19	23889.19	23889.19
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	23889.19	23889.19	23889.19	23889.19	23889.19
Average Gross Block	23889.19	23889.19	23889.19	23889.19	23889.19
Rate of Depreciation (%)	1.73	1.73	1.73	1.73	1.73
Depreciable Value	21470.34	21443.87	21443.87	21443.87	21443.87
Balance useful life of the asset	7	6	5	4	3

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Elapsed life	22	23	24	25	26
Remaining Depreciable Value	2898.35	2484.30	2070.25	1656.20	1242.15
Depreciation during the year	414.05	414.05	414.05	414.05	414.05
Cumulative depreciation (incl. of AAD)	18959.57	19373.62	19787.67	20201.72	20615.77

### **Operation & Maintenance Expenses (“O&M Expenses”)**

40. Clause 3(a) of Regulation 29 of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. The total allowable O&M Expenses for the instant assets have been worked out and allowed are as follows:-

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>400 kV Bays:</b>					
No. of Bays	23	23	23	23	23
Norms (₹ lakh/Bay)	60.300	62.300	64.370	66.510	68.710
<b>Line: S/C Twin/Triple Conductor</b>					
Line Length (km)	1617	1617	1617	1617	1617
Norms (₹ lakh/km)	0.404	0.418	0.432	0.446	0.461
<b>Line: D/C Twin/Triple Conductor</b>					
Line Length (km)	342	342	342	342	342
Norms (₹ lakh/km)	0.707	0.731	0.755	0.780	0.806
<b>Total O&amp;M Expenses (₹ lakh)</b>	<b>2281.96</b>	<b>2358.81</b>	<b>2437.26</b>	<b>2517.67</b>	<b>2601.42</b>

41. The petitioner has further submitted that the wage revision of the employees of the petitioner company is due during 2014-19 and actual impact of wage hike which will be effective from a future date has also not been factored in fixation of the normative O&M rate specified for the 2014-19 tariff period. The petitioner has also prayed that it will approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase. We would like to clarify that any application filed by the petitioner for revision of O&M Expenses on

account of wage revision will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations. The O&M Expenses are allowed for the instant transmission asset as per prevailing norms.

**Interest on Working Capital (“IWC”)**

42. Clause 1 (c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specifies as follows:

**“28. Interest on Working Capital**

- (c) (i) Receivables equivalent to two months of fixed cost;
- (ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and
- (iii) Operation and maintenance expenses for one month”

“(5) ‘Bank Rate’ means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points;”

43. The petitioner has submitted that it has computed interest on working capital for the tariff block 2014-19 considering the SBI Base Rate plus 350 basis points as on 1.4.2014. The rate of interest on working capital considered is 13.50%.

44. The interest on working capital is worked out in accordance with Regulation 28 of the 2014 Tariff Regulations. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points). The components of the working capital and interest thereon have been worked as follows:-

	(₹ in lakh)				
<b>Interest on Working Capital</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O & M expenses	190.09	196.49	203.02	209.72	216.70
Maintenance Spares	342.29	353.82	365.59	377.65	390.21
Receivables	862.28	875.79	889.59	903.73	918.46
<b>Total</b>	<b>1394.66</b>	<b>1426.10</b>	<b>1458.20</b>	<b>1491.10</b>	<b>1525.37</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>188.28</b>	<b>192.52</b>	<b>196.86</b>	<b>201.30</b>	<b>205.93</b>



## **ANNUAL FIXED CHARGES FOR THE 2014-19 TARIFF PERIOD**

45. The transmission charges allowed for the instant transmission assets for the 2014-19 tariff period are summarised below:-

(₹ in lakh)

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Depreciation</b>					
Opening Gross Block	23889.19	23889.19	23889.19	23889.19	23889.19
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	23889.19	23889.19	23889.19	23889.19	23889.19
Average Gross Block	23889.19	23889.19	23889.19	23889.19	23889.19
Rate of Depreciation (%)	1.73	1.73	1.73	1.73	1.73
Depreciable Value	21470.34	21443.87	21443.87	21443.87	21443.87
Balance useful life of the asset	7	6	5	4	3
Elapsed life	22	23	24	25	26
Remaining Depreciable Value	2898.35	2484.30	2070.25	1656.20	1242.15
Depreciation during the year	414.05	414.05	414.05	414.05	414.05
Cumulative depreciation (incl. of AAD)	18959.57	19373.62	19787.67	20201.72	20615.77
<b>Interest on Loan</b>					
Gross Normative Loan	12214.70	12214.70	12214.70	12214.70	12214.70
Cumulative Repayments upto Previous Year	12214.70	12214.70	12214.70	12214.70	12214.70
Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Loan	0.00	0.00	0.00	0.00	0.00
Weighted Average Rate of Interest on Loan (%)	0.94	0.94	0.94	0.94	0.94
Interest on Loan	0.00	0.00	0.00	0.00	0.00
<b>Return on Equity</b>					
Opening Equity	11674.48	11674.48	11674.48	11674.48	11674.48
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	11674.48	11674.48	11674.48	11674.48	11674.48
Average Equity	11674.48	11674.48	11674.48	11674.48	11674.48
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity	2289.37	2289.37	2289.37	2289.37	2289.37
<b>Interest on Working Capital</b>					
O & M Expenses	190.09	196.49	203.02	209.72	216.70

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Maintenance Spares	342.29	353.82	365.59	377.65	390.21
Receivables	862.28	875.79	889.59	903.73	918.46
Total Working Capital	1394.66	1426.10	1458.20	1491.10	1525.37
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest of working capital	188.28	192.52	196.86	201.30	205.93
<b>Annual Transmission Charges</b>					
Depreciation	414.05	414.05	414.05	414.05	414.05
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	2289.37	2289.37	2289.37	2289.37	2289.37
Interest on Working Capital	188.28	192.52	196.86	201.30	205.93
O & M Expenses	2281.96	2358.81	2437.26	2517.67	2601.42
<b>Total</b>	<b>5173.66</b>	<b>5254.75</b>	<b>5337.54</b>	<b>5422.39</b>	<b>5510.76</b>

### **Deferred Tax Liability**

46. The petitioner has sought recovery of deferred tax liability before 1.4.2009 from the beneficiaries or long term consumers/ DICs as and when materialized. The deferred tax liability shall be dealt as per Regulation 49 of the 2014 Tariff Regulations, as amended. Accordingly, the petitioner is entitled to recover the deferred tax liability upto 31.3.2009 whenever the same gets materialized directly from the beneficiaries or long term transmission customers /DICs.

### **Filing Fee and the Publication Expenses**

47. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with Regulation 52 (1) of the 2014 Tariff Regulations.

### **Licence Fee & RLDC Fees and Charges**

48. The petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 52 (2) (b) of the 2014 Tariff Regulations for 2014-19

tariff period. The petitioner shall also be entitled for recovery of RLDC fee & charges in accordance with Regulations 52 (2) (a) of the 2014 Tariff Regulations for 2014-19 tariff period.

### **Service Tax**

49. The petitioner has prayed for reimbursement of service tax if it is subjected to such tax in future. We are of the view that the petitioner's prayer is premature.

### **Foreign Exchange Rate Variation**

50. The petitioner has sought recovery of FERV on foreign loans deployed under clause 50 of 2014 Tariff Regulations. The petitioner is entitled to recover the FERV directly from the beneficiaries or the long term transmission customers / DICs, as the case may be, in accordance with clause (1) of the Regulation 51 of the 2014 Tariff Regulations.

### **Sharing of Transmission Charges**

51. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time as provided in Regulation 43 of the 2014 Tariff Regulations.

52. This order disposes of Petition No.555/TT/2014.

Sd/-  
**(Dr. M.K. Iyer)**  
**Member**

Sd/-  
**(A.S. Bakshi)**  
**Member**

